

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-10. (canceled)

11. (previously presented) A method for preparing a non-pathogenic amoeba vesicle for delivering a molecule of interest to an eukaryotic target cell, which method comprises the steps consisting of:

a) culturing a non-pathogenic amoeba cell in a culture medium comprising said molecule of interest, under conditions sufficient to allow the non-pathogenic amoeba cell to release vesicles; and

b) recovering a vesicle released by said non-pathogenic amoeba cell, which vesicle contains said molecule of interest,

wherein said molecule of interest is selected from the group consisting of a therapeutic molecule, an imaging agent and a diagnostic agent, with the proviso that said vesicle is not a Hoechst 33342-containing *Dictyostelium discoideum* vesicle.

12. (previously presented) The method according to claim 11, wherein said non-pathogenic amoeba is *Dictyostelium discoideum*.

13. (previously presented) An isolated non-pathogenic amoeba vesicle for delivering a molecule of interest to an eukaryotic target cell, wherein said vesicle contains a molecule of interest selected from the group consisting of a therapeutic molecule, an imaging agent and a diagnostic agent, with the proviso that said vesicle is not a Hoechst 33342-containing *Dictyostelium discoideum* vesicle.

14. (previously presented) The vesicle according to claim 13, wherein said non-pathogenic amoeba is *Dictyostelium discoideum*.

15-19. (canceled)

20. (previously presented) The method of claim 11, wherein said molecule of interest is a therapeutic molecule.

21. (previously presented) The method of claim 11, wherein said therapeutic molecule is selected from the group consisting of an antibiotic, an antimicrobial agent, an antimycobacterial, antifungal, or antiviral agent, an agent affecting the immune response, a blood calcium regulator, an agent useful in glucose regulation, an anticoagulant, an antithrombotic, an antihyperlipidemic agent, a cardiac drug, a thyromimetic or antithyroid drug, an adrenergic, an

antihypertensive agents, a cholinergic, an anticholinergic, an antispasmodic, an antiulcer agent, a skeletal and smooth muscle relaxant, a prostaglandin, a general inhibitor of the allergic response, an antihistamine, a local anesthetic, an analgesic, a narcotic antagonist, an antitussive, a sedative-hypnotic agent, an anticonvulsant, an antipsychotic, an anti-anxiety agent, an antidepressant agent, an anorexigenic, a non-steroidal anti-inflammatory agent, a steroidal anti-inflammatory agent, an antioxidant, a vaso-active agent, a bone-active agent, an anti-arthritic agent and an anti-neoplastic agent.

22. (previously presented) The method of claim 11, wherein said therapeutic molecule is an anti-neoplastic agent.

23. (previously presented) The method of claim 11, wherein said therapeutic molecule is an antibiotic.

24. (previously presented) The method of claim 11, wherein said molecule of interest is an imaging agent.

25. (previously presented) The method of claim 11, wherein said molecule of interest is a diagnostic agent.

26. (previously presented) The method of claim 11, wherein said molecule of interest is selected from the group

consisting of a small chemical molecule, a small organic or inorganic compound and a nucleic acid.

27. (previously presented) The method of claim 11, wherein said target cell is a human cell.

28. (previously presented) The method of claim 11, wherein said molecule of interest is not Hoechst 33342.

29. (previously presented) The method of claim 12, wherein said molecule of interest is a therapeutic molecule.

30. (previously presented) The method of claim 12, wherein said therapeutic molecule is selected from the group consisting of an antibiotic, an antimicrobial agent, an antimycobacterial, antifungal, or antiviral agent, an agent affecting the immune response, a blood calcium regulator, an agent useful in glucose regulation, an anticoagulant, an antithrombotic, an antihyperlipidemic agent, a cardiac drug, a thyromimetic or antithyroid drug, an adrenergic, an antihypertensive agents, a cholinergic, an anticholinergic, an antispasmodic, an antiulcer agent, a skeletal and smooth muscle relaxant, a prostaglandin, a general inhibitor of the allergic response, an antihistamine, a local anesthetic, an analgesic, a narcotic antagonist, an antitussive, a sedative-hypnotic agent,

an anticonvulsant, an antipsychotic, an anti-anxiety agent, an antidepressant agent, an anorexigenic, a non-steroidal anti-inflammatory agent, a steroidal anti-inflammatory agent, an antioxidant, a vaso-active agent, a bone-active agent, an anti-arthritic agent and an anti-neoplastic agent.

31. (previously presented) The method of claim 12, wherein said therapeutic molecule is an anti-neoplastic agent.

32. (previously presented) The method of claim 12, wherein said therapeutic molecule is an antibiotic.

33. (previously presented) The method of claim 12, wherein said molecule of interest is an imaging agent.

34. (previously presented) The method of claim 12, wherein said molecule of interest is a diagnostic agent.

35. (previously presented) The method of claim 12, wherein said molecule of interest is selected from the group consisting of a small chemical molecule, a small organic or inorganic compound and a nucleic acid.

36. (previously presented) The method of claim 12, wherein said target cell is a human cell.

37. (new) The isolated non-pathogenic amoeba vesicle of claim 13, wherein said molecule of interest is a therapeutic molecule.

38. (new) The isolated non-pathogenic amoeba vesicle of claim 13, wherein said molecule of interest is an imaging agent.

39. (new) The isolated non-pathogenic amoeba vesicle of claim 13, wherein said molecule of interest is a diagnostic agent.

40. (new) The isolated non-pathogenic amoeba vesicle of claim 13, wherein said molecule of interest is selected from the group consisting of a small chemical molecule, a small organic or inorganic compound, and a nucleic acid.

41. (new) The isolated non-pathogenic amoeba vesicle of claim 13, wherein said target cell is a human cell.

42. (new) The isolated non-pathogenic amoeba vesicle of claim 13, wherein said molecule of interest is not Hoechst 33342.

43. (new) The isolated non-pathogenic amoeba vesicle of claim 14, wherein said molecule of interest is a therapeutic molecule.

44. (new) The isolated non-pathogenic amoeba vesicle of claim 14, wherein said molecule of interest is an imaging agent.

45. (new) The isolated non-pathogenic amoeba vesicle of claim 14, wherein said molecule of interest is a diagnostic agent.

46. (new) The isolated non-pathogenic amoeba vesicle of claim 14, wherein said molecule of interest is selected from the group consisting of a small chemical molecule, a small organic or inorganic compound, and a nucleic acid.

47. (new) The isolated non-pathogenic amoeba vesicle of claim 14, wherein said target cell is a human cell.